

A New Species of *Morum* from Brazil, with Remarks on Related Species

(Gastropoda : Tonnacea)

BY

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(Plate 39; 1 Text figure)

MR. HENRY R. MATTHEWS of Fortaleza, Brazil recently submitted to us for examination a small collection of shelled mollusks taken from the digestive tracts of bottom-feeding fishes that were caught off the Brazilian coast of Ceará. Among this material are specimens of a new species of *Morum*, and I take extreme pleasure in naming this discovery in honor of Mr. Matthews.

Morum RÖDING, 1798

Type species: *Morum purpureum* RÖDING, 1798
[=*Strombus oniscus* LINNAEUS, 1758], by monotypy; Recent, southern Florida to Brazil

According to WOODRING (1959, p. 202), representatives of *Morum* (s. s.), which are strongly nodose forms, are not known from the American Caribbean region before Pliocene time. A nominal species, *Morum floridana* TUCKER & WILSON (1933, p. 71, pl. 10, figs. 3-5), was described from the Plio-Pleistocene of Florida. In the Recent fauna, only two species are recognized. These are *M. oniscus* (LINNAEUS, 1758) and *M. tuberculosum* (REEVE, 1842) which occur, respectively, in the tropical, western Atlantic and eastern Pacific Oceans. *Morum oniscus* also occurs in the Moín formation of late Pliocene age in eastern Costa Rica, and *M. tuberculosum* is known from late Pleistocene deposits in western Mexico and the Galapagos Islands. The more numerous cancellate species, which were recently placed in the subgenus *Cancellomorum*, have been referred erroneously by students to either "*Oniscidia* SWAINSON" or "*Onimusiro* KIRA, M.S."

(see WOODRING, 1959). This distinctive group first appears in the Eocene of the American Caribbean and the European Mediterranean. The European elements, however, became extinct by the end of the Miocene epoch. By this time, the group had become essentially circumtropical in distribution; however, by the close of the Tertiary, their modern descendants survived only in the tropical waters of the western Pacific and western Atlantic Oceans.

The earliest known representatives of *Cancellomorum* in the New World are two taxa reported from middle Eocene deposits. One small specimen, measuring only 14 mm in length, was described as *Morum (Cancellomorum) scotlandica* (TRECHMANN, 1925, p. 491, pl. 24, figs. 18a, b) from the Scotland Beds of Barbados. A fragment of a small, unnamed specimen was recorded by WOODRING (1959, pp. 202, 203, pl. 25, figs. 11, 17) from the Gatuncillo formation of the Panama Canal Zone. Other New World species, some with European affinities, have been described from late Eocene to early Oligocene deposits in Mississippi, Panama, Colombia, and Peru.

In the American Miocene, species are reported from Florida, Panama, Dominican Republic, Carriacou Island (The Grenadines), and Brazil. Two closely related, if not conspecific species, have been described from Plio-Pleistocene of Florida.

(*Cancellomorum*) EMERSON & OLD,
1963

Type species: *Morum grande* (A. ADAMS, 1855), by original designation; Recent, off southern Japan.

Morum (Cancellomorum) matthewsi EMERSON
spec. nov.

Plate 39, Figures 2 to 4; Text figure 1

Shell is small, attaining a length of 28 mm, imperforate, solid, strong, low-spined, with 4 postnuclear whorls. Nucleus is large, papilliform, with 3 whorls. Body whorl is shouldered below the sutural depression, sculptured with weak, blade-like axial ridges which form small, longitudinally compressed plications at the intersection of the 6 spiral ridges. Interspaces between the plications are sculptured with fine axially arranged threads. Aperture is semi-crescentic in outline. Outer lip is reflected, thickened and possesses about 15 major to minor liraform "teeth" along the length of the inner margin. Inner lip is covered with a thick callus which is ornamented with numerous lirations, some of which terminate abaperturally as small pustules. Operculum was not seen.

The nucleus is white, and the postnuclear whorls have a base color of pinkish white that is stained with irregular patches of reddish brown, which occur most prominently as two spiral bands that terminate on the outer lip. The callus on the parietal wall is colored a deep-purplish red, except the lirations and pustules, which are whitish. The "teeth" on the outer lip are also white.

Measurements: Holotype, 25.1 mm in length, 15.5 mm in width; largest paratype, 28.3 mm by 18.3 mm; smallest paratype (outer lip immature), 20.4 mm by 12.3 mm.

Type locality: off Fortaleza, Ceará, Brazil, in 15 fathoms, July, 1965, March, 1966 (from the digestive tracts of the toadfish, *Amphichthys cryptocentrus*).

Type depository: Holotype, A. M. N. H. catalogue no. 129201, and 4 paratypes, no. 129202, American Museum of Natural History; one paratype, British Museum (Natural History); one paratype, Museum of Comparative Zoology, Harvard University; hypotype (Text figure 1) Stanford University Paleontology type collection; hypotype, collection of B. Tursch. The last two hypotypes listed are fresh beach specimens from Acaraú, Ceará, Brazil. All paratypes are from the type locality.

The new species differs from *Morum (Cancellomorum) dennisoni* (REEVE, 1842, p. 111, pl. 54, figs. 5, 6), a rare Caribbean species occurring in deep water (75 to to 130 fathoms), by its much smaller size, more prominent nucleus, fewer tubercles, and, most noticeably, by the orna-

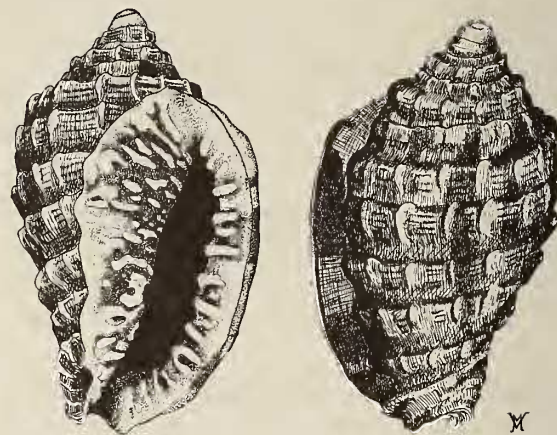


Figure 1

Morum (Cancellomorum) matthewsi, spec. nov.
Hypotype from beach-drift at Acaraú, Ceará, Brazil.
(Stanford Univ. Palco. Type Coll.; ex B. Tursch); greatly enlarged
(length of specimen - 27.5 mm).
Drawing courtesy of Dr. J.-J. Van Mol.

mentation and color of the parietal callus. REEVE's taxon, of which a probable cotype, from the John Calvert Collection, is deposited in the American Museum (see Plate 39, Figure 1), attains a length of more than 53 mm and is easily distinguished by its pustulate parietal callus which has a base color of light reddish brown and whitish pustules. *Morum dennisoni* appears to have evolved from one of several known, slightly smaller Miocene species, possibly *M. (C.) chipolanum* "DALL" MAURY (1925, pl. 4, fig. 4, GARDNER, 1947, pl. 54, fig. 18; Chipola formation, Florida). *Morum matthewsi*, spec. nov., on the other

Explanation of Plate 39

Morum (Cancellomorum) dennisoni (REEVE, 1842)

Figure 1: Probable cotype from the John Calvert collection, without locality data
(A. M. N. H. no. 12818; ex Anthony D'Attilio collection); (x 1)

Morum (Cancellomorum) matthewsi, spec. nov.

Figures 2 - 4: Type specimens from off Fortaleza, Ceará, Brazil, in 15 fathoms, ex H. R. Matthews collection; (x 2)

Figure 2: Paratype (A. M. N. H. no. 129202 a); juvenile specimen.

Figure 3: Holotype (A. M. N. H. no. 129201); mature specimen.

Figure 4: Paratype (A. M. N. H. no. 129202 b); specimen with an immature outer lip and with the parietal callus not fully developed.



Figure 1 a

Figure 1 b

Figure 2 a

Figure 2 b



Figure 3 a

Figure 3 b

Figure 4 a

Figure 4 b

Morum (Cancellomorum) dennisoni (REEVE, 1842)

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